CLAIMS

What is claimed is:

1   1. A method for object retransmission from a central site to a receiver, the method

2 comprising the steps of:

3   (a)   receiving a plurality of objects in the receiver from the central site;

4   (b)   generating a response document in the receiver;

5   (c)   sending the response document to the central site asynchronously; and

6   (d)   determining which of the plurality of objects to retransmit to the receiver based

7 upon the response document.

1   2. The method of claim 1, wherein the determining step (d) further comprises the steps

2 of:

3   (d1) determining which objects to retransmit to a zone, the zone including a plurality of

4 receivers; and

5   (d2) determining which objects to retransmit to the receiver.

1   3. The method of claim 2, wherein the central site further comprises a scheduler module

2 for scheduling objects for transmission.

1   4. The method of claim 3, further comprising the step of:

2   (e) instructing the scheduler to retransmit the objects based upon step (d1) and step (d2).

1   5. The method of claim 2, wherein the plurality of objects further comprises asset files

2   and system support files, wherein the asset files are media files and the system support files

3   further include an upcoming playlist.

1   6. The method of claim 5 wherein the response document further comprises a Missing

2   Asset List and a Delivered File Log.

1   7. The method of claim 6, wherein the generating step (b) further comprises the step of:

2   (b1) preparing the Missing Asset List; wherein the Missing Asset List

3   preparing step (b1) further comprises the steps of:

4   (b1a) comparing the upcoming playlist with an inventory of asset files in

5   the receiver;

6   (b1b) determining which assets are missing in the receiver; and

7   (b1c) listing missing assets in the Missing Asset List.

1   8.   The method of claim 7, wherein the sending step (c) further comprises the step of:

2   (c1) establishing a call back time when the receiver contacts the central site, the call back

3   time occurring at regularly scheduled time intervals, a time period between successive call back

4   times being a receiver time window.

1   9. The method of claim 8, wherein the generating step of (b) further comprises the step

2   of:

3   (b2) preparing the Delivered File Log, wherein the Delivered File Log contains the

4   plurality of objects received by the receiver and a respective received time for each object of the

5   plurality of objects, the received time being within the receiver time window.

1   10. The method of claim 9, wherein the determining step (d1) further comprises:

2   (d1a) analyzing the Missing Asset Lists sent by the plurality of receivers in the zone; and

3   (d1b) compiling a list of all missing assets in the zone.

1   11. The method of claim 10, wherein the determining step (d1) further comprises:

2   (d1c) calculating a zone time window, wherein the zone time window is a period of time

3   starting at a prior zone time window calculation end time and ending when a first receiver in the

4   zone contacts the central site;

5   (d1d) analyzing the Delivered Files Log sent by the plurality of receivers in the zone to

6   compile a list of all objects received within the zone time window by the plurality of receivers in

7   the zone;

8   (d1e) comparing the list of all objects received with an inventory of objects in the zone

9   transmitted during the zone time window;

10   (d1f) compiling a list of all objects missing in the plurality of receivers in the zone; and

11   (d1g) comparing the list of all objects missing in the plurality of receivers in the zone with

12   the list of all missing assets in the zone to determine which objects to retransmit to the zone.

1   12. The method of claim 11 wherein determining step (d2) further comprises:

2   (d2a) analyzing the Delivered File Log sent by each receiver in the zone;

3   (d2b) comparing the Delivered File Log with an inventory of objects in the zone

4   transmitted during the receiver time window;

5   (d2c) compiling a list of missing objects in the receiver;

6   (d2d) comparing the list of missing objects in the receiver with the objects determined in

7   step (d1) to determine which objects to retransmit to the receiver; and

8   (d2e) repeating steps (d2a)-(d2d) for each receiver in the zone.

1   13. The method of claim 1 wherein the response document further comprises a Content

2   File List, the Content File List listing a receiver's inventory of objects.

1   14. The method of claim 13 further comprising the step of:

2   (e) utilizing the response document in the central site to manage the receiver's inventory

3   of objects; wherein the utilizing step (e) further comprises the steps of:

4   (e1) comparing the Content File List to an inventory of objects in a zone comprised of a

5   plurality of receivers;

6   (e2) compiling a list of objects on the Content File List but not in the inventory of objects

7   in the zone;

8   (e3) generating a Purge List comprised of the list of objects compiled in step (e2); and

9   (e4) instructing the receiver to delete the objects listed in the Purge List.

1   15. A digital media distributor system comprising:

2   a central site for transmitting a plurality of objects;

3   a receiver receiving the plurality of objects, the receiver generating and sending

4   asynchronously a response document to the central site; and

5   a response document processor (RDP) module in the central site for receiving the

6   response document from the receiver, and for utilizing the response document to determine which

7   objects of the plurality of objects to retransmit to the receiver.

1   16. The system of claim 15 wherein the plurality of objects further comprises asset files

2   and system support files, the asset files being media files, and the system support files further

3   including an upcoming playlist.

1   17. The system of claim 16 wherein the response document further comprises a Missing

2   Asset List and a Delivered File Log.

1   18. The system of claim 17 wherein the Missing Asset List is generated by:

2   comparing the upcoming playlist with an inventory of asset files in the receiver;

3   determining which assets are missing in the receiver; and

4   listing missing assets in the Missing Asset List.

1   19. The system of claim 18 wherein the receiver contacts the central site at regularly

2   scheduled call back times, a time period between successive call back times being a receiver time

3   window.

1   20. The system of claim 19 wherein the Delivered File Log contains the plurality of

2   objects received by the receiver and a respective received time for each object of the plurality of

3   objects, the received time being within the receiver time window.

1   21. The system of claim 20 wherein the receiver is one of a plurality of receivers in a

2   zone, and wherein the RDP determines which objects to retransmit to the zone by:

3   analyzing the Missing Asset List sent by the plurality of receivers in the zone;

4   compiling a list of all missing assets in the zone;

5   calculating a zone time window, wherein the zone time window is a period of time

6   starting at a prior zone time window calculation end time and ending when a first receiver in the

7   zone contacts the central site;

8   analyzing the Delivered Files Log sent by the plurality of receivers in the zone to compile

9   a list of all objects received within the zone time window by the plurality of receivers in the zone;

10   comparing the list of all objects received with an inventory of objects in the zone

11   transmitted during the zone time window;

12   compiling a list of all objects missing in the plurality of receivers in the zone; and

13   comparing the list of all objects missing in the plurality of receivers with the list of all

14   missing assets to determine which objects to retransmit to the zone.

1   22. The system of claim 21 wherein the RDP further determines which objects to

2   retransmit to the receiver by:

3   analyzing the Delivered File Log sent by each receiver in the zone;

4   comparing the Delivered File Log with an inventory of objects in the zone transmitted

5   during the receiver time window;

6   compiling a list of missing objects in the receiver;

7   comparing the list of missing objects in (c) with the objects determined in claim 21 to

8 determine which objects to retransmit to the receiver; and

9   repeating steps (a)-(d) for each receiver in the zone.

1   23. The system of claim 22 wherein the RPD instructs a scheduler module in the central

2 site to retransmit objects determined in claim 21 to the zone and objects determined in claim 22

3 to the receiver.

1   24. The system of claim 15 wherein the receiver is one of a plurality of receivers in a

2 zone and the response document further comprises a Content File List, the Content File List

3 listing a receiver's inventory of objects.

1   25. The system of claim 24 wherein the RDP manages the receiver's inventory of

2 objects by:

3   comparing the Content File List to an inventory of objects in the zone;

4   compiling a list of objects on the Content File List but not in the inventory of objects in

5 the zone;

6   generating a Purge List comprised of the list of objects compiled in step (b); and

7   instructing the receiver to delete the objects listed in the Purge List.

1   26. A method for object retransmission from a central site to a receiver in a digital media

2 distributor (DMD) system, the receiver being one of a plurality or receivers in a zone, the method

3 comprising:

4   (a) receiving a plurality of objects in the receiver from the central site;

5   (b)   generating a response document in the receiver;

6   (c)   sending the response document to the central site asynchronously at a

7   predetermined time;

8   (d)   receiving a plurality of response documents from the receivers in the zone; and

9   (e)   determining which objects or the plurality of objects to retransmit to the zone and

10   to the receiver based upon the plurality of response documents.

1   27. The method of claim 26, wherein the central site further comprises a scheduler

2   module for scheduling object transmission.

1   28. The method of claim 27 further comprising:

2   (f) instructing the scheduler to retransmit the objects determined in step (e) to the zone

3   and to the receiver.

1   29. A digital media distributor system for transmitting objects to receivers, comprising:

2   a central site for transmitting a plurality of objects;

3   a receiver for receiving the plurality of objects, each receiver being one of a plurality of

4   receivers in a zone, each receiver generating and transmitting asynchronously a response

5   document; and

6   a response document processor module (RDP) in the central site for receiving the

7   response documents from the plurality of receivers, and for utilizing the response documents to

8   determine a retransmission of objects to the zone and to the plurality of receivers.

1   30. The system of claim 29, wherein the receiver makes asynchronous contact with the

2   central site at regularly scheduled times.

1   31. The system of claim 29, wherein the RPD instructs a scheduler module in the central

2   site to retransmit the objects to the zone and to the plurality of receivers.

1   32. A computer readable medium containing program instructions for retransmitting

2   objects from a central site to a receiver, the program instructions for:

3   a)   generating a response document in the receiver based on objects received

4   from the central site;

5   b)   sending the response document to the central site asynchronously; and

6   c)   determining which objects are to be retransmitted based upon the response

7   document.

1   33.   The computer readable medium of claim 32, wherein the determining

2   instruction (c) further comprises programming instructions for:

3   (c1) determining which objects to retransmit to a zone comprised of a plurality of

4   receivers; and

5   (c2) determining which objects to retransmit to the receiver.

1   34. The computer readable medium of claim 33, wherein the central site comprises a

2   scheduler module for scheduling objects for transmission.

1   35. The computer readable medium of claim 34, further comprising program

2   instructions for:

3   (d) directing the scheduler to retransmit the objects based upon step (c1), and step (c2).